

PEDESTRIAN MASTER PLAN

CITY-WIDE IMPLEMENTATION FRAMEWORK REPORT



EXECUTIVE SUMMARY.....ES-1



CHAPTER 1 - INTRODUCTION

1.1	PLAN PURPOSE	1-1
1.2	PLAN VISION STATEMENT	1-2
1.3	PLAN GOALS AND OUTCOMES	1-2
1.3.1	Safety	1-2
1.3.2	Accessibility	1-2
1.3.3	Connectivity	1-2
1.3.4	Walkability	1-2
1.3.5	Neighborhood Quality	1-2
1.3.6	Alternative Transportation	1-2
1.3.7	Cost Effectiveness	1-2
1.4	PROCESS	1-3
1.4.1	General Public Input	1-3
1.4.2	Pedestrian Working Group (PWG) Input	1-3
1.4.3	Staff and Departmental Input	1-3
1.4.4	Public Open House Input	1-4
1.4.5	Questionnaire Input	1-4
1.5	THE PMP AND OTHER CITY OF SAN DIEGO DOCUMENTS	1-4
1.6	WHAT THE PMP IS NOT INTENDED TO ACCOMPLISH	1-4
1.7	HOW TO USE THIS DOCUMENT	1-6



CHAPTER 2 - PLAN CONTEXT

2.1	URBAN FORM	2-1
2.1.1	Layout of San Diego from a Pedestrian Perspective	2-1
2.1.2	Relevance of Urban Form	2-2
2.2	WALKING TRENDS	2-3
2.2.1	Walking to Work	2-3
2.2.2	Relevance of Walking Trends	2-3
2.3	PUBLIC HEALTH TRENDS	2-4
2.3.1	Physical Activity, Obesity and Chronic Disease	2-4
2.3.2	Mental Health, Social Networks and Violence	2-4
2.3.3	Child Development	2-4
2.3.4	Respiratory Disease	2-4
2.3.5	Relevance of Health Issues	2-4



CHAPTER 3 - ISSUES AND POSSIBLE SOLUTIONS

3.1	SAFETY RELATED GOALS, ISSUES AND SOLUTIONS	3-1
3.1.1	Pedestrian Collisions and Injuries in San Diego	3-1
3.1.2	Profile of Pedestrians at Risk for Collisions and Injuries	3-2
3.1.3	Pedestrian Collision Circumstances and Contributing Factors	3-4
3.1.4	Violence and Personal Safety	3-11

TABLE OF CONTENTS



3.1.5	Pedestrian Trip and Falls	3-11
3.1.6	Pedestrian Safety Education Awareness	3-11
3.1.7	Solutions that Address Safety Issues.	3-12
3.2	ACCESSIBILITY RELATED GOALS, ISSUES & SOLUTIONS....	3-12
3.2.1	Regulatory Context - Americans with Disabilities Act of 1990..	3-15
3.2.2	State of California Title 24 Summary	3-15
3.2.3	City of San Diego ADA Transition Plan.....	3-15
3.2.4	Solutions that Address Accessibility Issues	3-16
3.3	CONNECTIVITY GOALS, ISSUES AND SOLUTIONS	3-18
3.3.1	Typical Connectivity Issues	3-18
3.3.2	Solutions that Address Connectivity Issues.....	3-19
3.4	WALKABILITY GOALS, ISSUES AND SOLUTIONS	3-21
3.4.1	Basic Requirements for Walkability	3-21
3.4.2	Solutions that Address Walkability Issues	3-21
3.5	NEIGHBORHOOD QUALITY GOALS.....	3-22
3.5.1	Required Elements to Assure Neighborhood Quality	3-22
3.6	ALTERNATIVE TRANSPORTATION GOAL	3-24
3.7	COST EFFECTIVENESS GOAL.....	3-24
3.8	RELATIONSHIP OF GOALS & EXISTING POLICIES.....	3-25



CHAPTER 4 - ROUTE TYPES AND TREATMENTS

4.1	OVERVIEW	4-1
4.2	TYPES DEFINED	4-1
4.2.1	District Sidewalks.	4-1
4.2.2	Corridor Sidewalks.	4-2
4.2.3	Connector Sidewalks	4-2
4.2.4	Neighborhood Sidewalks	4-2
4.2.5	Ancillary Pedestrian Facilities	4-2
4.2.6	Paths	4-2
4.2.7	Trails	4-9
4.3	TREATMENT LEVELS	4-9
4.4	TREATMENT LEVELS AND DEVELOPMENT PROJECTS.....	4-9
4.5	SAMPLE PEDESTRIAN IMPROVEMENTS & TREATMENTS ...	4-10



CHAPTER 5 - PEDESTRIAN PRIORITY MODEL

5.1	MODEL OVERVIEW	5-1
5.2	COMPUTER MODEL DESCRIPTION.....	5-1
5.2.1	Pedestrian Attractors	5-2
5.2.2	Pedestrian Generators.	5-4
5.2.3	Pedestrian Detractors	5-6
5.3	COMPOSITE MODEL.....	5-8
5.4	MODEL RESULTS CITYWIDE.....	5-8
5.5	MODEL RESULTS BY COMMUNITY PLANNING AREA	5-10
5.6	PRIORITY FOR PLAN DEVELOPMENT BY COMMUNITY PLANNING GROUP AREA	5-10



CHAPTER 6 - PEDESTRIAN PROJECT PRIORITIES

6.1	PROJECT DEFINITION AND ORIGIN.....	6-1
6.2	PRIORITY OBJECTIVES	6-1
6.3	OPTIONAL PRIORITY CHECKLISTS.....	6-2
6.4	PROJECT IDENTIFICATION.....	6-2
6.5	PRIORITY SELECTION PROCESS	6-2



CHAPTER 7 - FUNDING SOURCES

7.1	FUNDING OVERVIEW	7-1
7.2	HISTORIC FUNDING SOURCES.....	7-1
7.3	LOCAL FUNDING SOURCES	7-1
7.4	REGIONAL FUNDING SOURCES	7-6
7.5	STATE FUNDING SOURCES.....	7-6
7.6	FEDERAL FUNDING SOURCES	7-7
7.7	PRIVATE FUNDING SOURCES	7-8
7.8	PROPERTY OWNER FUNDING.....	7-8
7.9	FUNDING STRATEGIES	7-9



CHAPTER 8 - MAINTENANCE ISSUES

8.1	CITY OF SAN DIEGO STREET DIVISION SIDEWALK MAINTENANCE POLICY	8-1
8.2	SIDEWALK MAINTENANCE PROCEDURES.....	8-1
8.3	50/50 COST SHARING PROGRAM	8-2
8.4	MAINTENANCE FUNDING	8-2
8.5	MAINTENANCE RECOMMENDATIONS.....	8-2



CHAPTER 9 - PHASE TWO GUIDANCE

9.1	OVERALL PUBLIC INPUT PROCESS	9-1
9.2	COLLECT AND PROCESS MAPPING.....	9-2
9.2	COLLECT AND REVIEW COLLISION DATA AND MAPS	9-3
9.3	DETERMINE LIMITS OF FOCUS STUDY AREA.....	9-4
9.4	COMMUNITY INPUT PROGRAM.....	9-5
9.5	PREPARE AND CONDUCT THE FIRST COMMUNITY WORKSHOP	9-6
9.6	DOCUMENT THE RESULTS OF THE WORKSHOP	9-7
9.7	FIELD WORK	9-7
9.8	DETERMINE TREATMENTS	9-8
9.9	PRESENT PROJECTS.....	9-8
9.10	SUBMIT REPORT.....	9-8

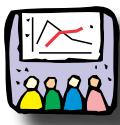


APPENDIX A - PUBLIC INPUT PROCESS.....	A-1
APPENDIX B - PUBLIC OPEN HOUSE.....	B-1
APPENDIX C - QUESTIONNAIRE RESULTS.....	C-1
APPENDIX D - WALKING RATES	D-1

FIGURES



Figure 1: Walkable Community Benefits	1-1
Figure 2: Relationship between the PMP and other City Documents.....	1-5
Figure 3a: Traditional Streets	2-1
Figure 3b: Post War Streets.....	2-1
Figure 3c: Typical Street Layouts	2-2
Figure 4: Map of Traditional, Post-War & New Neighborhoods.....	2-2
Figure 5: Location of Pedestrian Collisions (1998-2004)	3-7
Figure 6a: Route Type 1 - District Sidewalks	4-3
Figure 6b: Route Type 2 - Corridor Sidewalks.....	4-4
Figure 6c: Route Type 3 - Connector Sidewalks.....	4-5
Figure 6d: Route Type 4 - Neighborhood Sidewalks	4-6
Figure 6e: Route Type 5 - Ancillary Pedestrian Facilities	4-7
Figure 6f: Route Type 6- Mult-Use Pathways.....	4-8
Figure 6g: Route Type 7- Walking or Hiking Trail	4-8
Figure 7: Pedestrian Priority Model (PPM) Process Chart	5-1
Figure 8: Attractor Model Results.....	5-3
Figure 9: Generator Model Results.....	5-5
Figure 10: Detractor Model Results	5-7
Figure 11: Composite Model Results	5-9
Figure 12: Community Ranking	5-11
Figure 13: Sample Public Input Process for Greater North Park	9-1
Figure 14: PPM Model for North Park.....	9-2
Figure 15: SWITRS Collision Data and Maps	9-3
Figure 16: Route Type Classification Using GIS Layers	9-4
Figure 17: Focus Study Areas	9-4
Figure 18: Purpose, Techniques and Expected Outcomes of the Three Required Community Workshops / Meetings.....	9-5
Figure 19: Sample Flyer Announcing the Workshop.....	9-6
Figure 20: Suggested Workshop Agenda.....	9-6
Figure 21: Instructions Indicating some of the Activities that can be Conducted at the Workshop	9-6
Figure 22: Workshop Mapping Results.....	9-7



Tables

Table 1: Rates of Commuting by Walking	2-3
Table 2: Average Rates of Commuting by Transit	2-3
Table 3: Pedestrians hit by a vehicle, City of San Diego (1999-2004)	3-1
Table 4: Pedestrian collisions with vehicles for City of San Diego compared to the County of San Diego (1999-2004)	3-2
Table 5: Pedestrian collisions with vehicles for City of San Diego compared to the County, Adjusted for Population (1999-2004)	3-2
Table 6: Pedestrian collisions for City of San Diego Based on Age (1998-2004)	3-3
Table 7: Pedestrian collisions for City of San Diego Based on Age (2000)	3-3
Table 8: Pedestrian collisions for City of San Diego Based on Age (2000) per 1,000 population... Table 9: Pedestrian collisions for City of San Diego Based on Fault (1998-2004)	3-3
Table 10: Survival Rate Based on Differing Speed Categories	3-5
Table 11: Braking Distance with Reaction Time	3-6
Table 12: Comparison of Collisions on Locations	3-6
Table 13: Comparison of Collisions Relative to Street Classifications.....	3-8
Table 14: Comparison of Collisions Relative to Roadway ADT, Normalized per Mile.....	3-8
Table 15: Comparison of Collisions Relative to Street Classifications.....	3-8
Table 16: Comparison of Collision Locations Relative to ADTs, Normalized per Mile.....	3-9
Table 17: Comparison of Collision Locations (for 16 Years and Younger) Relative to Street Classification, Normalized per Mile	3-9
Table 18: Top 5 San Diego Elementary Schools with the Highest Collision Rates for Children....	3-9
Table 19: Collisions Based on Time of Day	3-10
Table 20: Safety Issues (at Intersections)	3-13
Table 21: Safety Issues (along Streets)	3-14
Table 22: Accessibility Issues	3-17
Table 23: Connectivity Issues.....	3-20
Table 24: Walkability Issues.....	3-23
Table 25: Existing or Draft Proposed City of San Diego Policies Relevant to Pedestrian Issues and Goals	3-26
Table 26: Route Types	4-1
Table 27: Treatment Levels and Potential Improvements.....	4-11
Table 28: Development Type and Application of Route Treatment Levels.....	4-12
Table 29: Pedestrian Attractor Factors and Scoring	5-2
Table 30: Point Comparisons.....	5-2
Table 31: Pedestrian Generator Factors and Scoring	5-4
Table 32: Pedestrian Barrier Factors and Scoring	5-6
Table 33: Community Ranking Normalized by Size	5-12
Table 34: Draft PMP Checklist.....	6-3
Table 35: SANDAG Pedestrian Project Selection Matrix	6-4
Table 36: City of San Diego Suggested Prioritization Criteria Point System	6-6
Table 37: Possible Funding Sources	7-3
Table 38: Funding Strategies.....	7-10



A

accessibility ES-1, ES-2, 1-2, **3-1**, 3-16, 6-1, 8-2
ccessible 3-15, 3-16, 3-24, 7-9, 8-1
ADA (Americans with Disabilities Act) 3-15, 3-16, 7-1, 8-1, 8-2
ADA Transition Plan 1-4
ADT (Average Daily Traffic) 3-8
alcohol 3-4
alternative transportation ES-2, 3-24, 6-1
Ancillary Pedestrian Facilities ES-3, 4-2
apex ramps 4-13
attractors 5-2

B

barriers 3-18, 3-19
basic level ES-3, 4-9
BID (Business Improvement Districts) 7-1, 7-9
Bike and Pedestrian Working Group 6-2
BTA (Bicycle Transportation Account) 7-6

C

CBTP (Community-Based Transportation Planning) 7-6
CCC (California Conservation Corps) 7-6
CDBG (Community Development Block Grant) 7-2, 7-7, 8-2
census 5-4
children 2-3, **2-4**, 3-3, **3-5**, 3-9, 3-10, 3-11, 3-12
CIP (Capital Improvement Program) 7-1, 7-9
City Planning and Community Investment Department 6-2
City Policy 3-19
CMAQ (Congestion Mitigation and Air Quality) 7-7
collisions 3-1, 3-2, 3-3, 3-4, 3-5, **3-6**, 3-8, 3-10
Community Planners Committee 1-3
Community Specific Pedestrian Master Plan 9-1, 1-3

COMPACT (Community Planners Advisory Committee on Transportation) 1-3
Composite Map 5-8
connected 3-24, 7-9, 8-1
connectivity ES-1, ES-2, 1-2, **3-1**, 3-18, 3-19, 6-1
connector sidewalks ES-3, 4-2
corridor sidewalks ES-2, 4-2
countdown pedestrian heads 4-23
CPMP (Community Pedestrian Master Plan) ES-4 6-2, 9-1
crime 3-11, 3-22
cross slope 4-14
crosswalk 3-25
cul-de-sacs 2-1, 3-19
curb extensions 4-15
curb ramp 3-15, 3-16, 4-13

D

detractors 5-6
Development Services 6-2, 8-2
Development Services Department 7-2
DIF (Developer Impact Fees) 7-2, 7-9
Disability Services 1-3, 6-2, 8-2
disabled 3-4
district sidewalks ES-2, 4-1

E

education 3-12
EJ (Environmental Justice) 7-7
employment density 5-4
enforcement 3-12
engineering 3-12
Engineering and Capital Projects Department 6-2
enhanced level ES-3, 4-9

F

facilities financing 1-3
fatalities 3-2, 3-8
fatality 3-1, 3-4
FBA (Facility Benefit Assessment Districts) 7-2, 7-9
Federal Highway Administration 7-8
funding 7-1
furnishings zone 3-21, 4-14

G

General Plan ES-1, 1-4
generators 5-4
GIS (Geographic Information System) 5-1, 6-2

H

health ES-1, 2-4

I

Injuries 3-11

intersections 3-12

ISTEA (Intermodal Surface Transportation Efficiency Act of 1991) 7-1

L

ladder style 4-16, 4-19

Land Development Code 1-4

lighting 3-25, 4-21

low-income communities 3-4

LWCF (Land and Water Conservation Fund) 7-7

M

MAD (Maintenance Assessment District) 7-2, 7-9

maintenance 8-1

median refuge 4-15, 4-19, 4-23

mental health 2-4

MGRAs (Master Geographic Reference Areas) 5-4

mid-block 3-5, 3-6

mid-block crossing 4-15, 4-19

mid-block crosswalks 3-25

mobility 2030 8-2

Mobility Element ES-1, 1-4

multi-direction threat 4-19

MUTCD (Manual on Uniform Traffic Control Devices)

4-16, 4-19

N

neighborhood quality ES-2, 1-2, 3-1, 3-22, 3-24

neighborhoods 2-1, 3-22

neighborhood sidewalks ES-3, 4-2

neo-traditional 2-1

O

obesity 2-4, 3-11

objectives 1-1

P

Park and Recreation Department 7-2

parkway strip 4-20

paths ES-3, 4-2

pedestrian attractors 5-1

pedestrian crossing 4-18

pedestrian detractors 5-1

pedestrian generators 5-1

Pedestrian Master Plan Project Working Group 1-3

pedestrian pop-outs 4-15

pedestrian scrambles 4-23

physical activity 2-4

Planning and Designing for Pedestrians ES-1

Planning Department 1-3

PMP (Pedestrian Master Plan) ES-1, 5-8

population density 5-4

PPM (Pedestrian Priority Model) ES-3, 5-1

premium level ES-3, 4-9

prioritization model 6-2

PWG (Pedestrian Working Group) 1-3

Q

questionnaire 1-4

R

raised crosswalks 4-16, 4-21

roundabout 4-21

S

Safe Routes to School 7-7, 7-8

safety ES-1, 1-2, 3-1, 3-10, 3-12, 3-19, 3-21, 6-1

SANDAG (San Diego Association of Governments) ES-1,

ES-4, 1-3, 6-2, 7-6, 7-8

SCRAB (Subcommittee for the Removal of Architectural Barriers) 1-3

seniors 3-3, 3-6, 3-11, 3-12, 6-1

smart growth 3-19, 6-1, 7-6, 7-8

speed 3-6

speeding 3-10

speed tables 4-16, 4-21

stop signs 3-25

STP (Surface Transportation Program) 7-8

Street Design Manual ES-1, 1-4, 4-9

Street Division 6-2, 8-1, 8-2

street furniture 4-22

SWITRS (Statewide Integrated Traffic Records System) 3-1,

3-2, 3-6



T

tactile strip 4-13
Tax Increment Financing 7-5
TDA (Transportation Development Act) 7-6
TEA (Transportation Enhancement Activities) 7-6, 7-8
title 24 3-15, 3-16
TOT (Transient Occupancy Tax) 7-5
traffic calming 3-12
traffic calming toolbox 1-4
traffic circle 4-21
traffic signals 3-25
trails ES-3, 4-9
transit 3-16
Transit-Oriented Development 1-4
Transit Oriented Development Guidelines ES-1
TransNet 7-5, 8-2
Transportation Development Act 7-6
treatment levels ES-3, 4-9
trip hazard 8-1
truncated domes 4-13

U

Urban Form 2-1, 2-2

W

walkability ES-1, ES-2, 1-2, 2-4, 3-1, 3-21, 6-1
walkable 3-22, 3-24, 7-9, 8-1